Author's response to reviews

Title: Quantitative EEG findings in patients with acute, brief depression combined with other fluctuating psychiatric symptoms: a controlled study from an acute psychiatric department

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Author's response to reviews: see over
To the editor and reviewers of BMC Psychiatry

Thank you very much for the positive response to our paper. We are grateful for several useful questions and suggestions from the reviewers.

Reviewer 1

METHODS
1) Can you state the criteria for artefact rejection? Did you include segments with epileptiform activity in FFT analysis?

RESULTS, QEEG:
2) Can you state explicitly which criteria you used for selecting cutoff thresholds in your analysis, like 8.9 uV for delta activity amplitude or 0.1 uV for side difference.

- Discretionary Revisions :
RESULTS- CLINICAL EEG SECTION
3) Your conclusions would be better supported if you rewrite the paragraph focusing on your positive finding (greater number of EEG abnormal features after three registrations in AUDS patients), reducing the weight of "nonsignificant trends" probably due to low number of subjects and low power of nonparametric statistics.

RESULTS-BACKGROUND DATA:
4) Do "controls" mean "using antiepileptic drugs"?

Answers to Reviewer 1:
1. Epochs with eyeblinks, muscle artefacts, electrode/movement artefacts epileptiform activity and drowsiness were excluded (added to Methods).

2. These cutoffs were selected by trial and error after inspection of the box-and-whisker plots as those that yielded the optimal separation between the two groups (added to Results/QEEG). A formal ROC analysis was not done because the n was rather low.

3. The sentence “Eight (50%) of the AUDS patients and one (6 %) of the MDE patients displayed two or more abnormal features after three registrations (p = 0.016, Table 2).” has been moved to the start of the results section.

4. In the sentence “Indeed the subgroup not using anti-epileptic drugs did also have significantly more temporal delta activity than controls” “controls” are the MDE patients. We have corrected the sentence in the manuscript.

Reviewer 2
1. Is the question posed by the authors well defined?
The main question is not well defined. The abstract and intro are very misleading. It is very hard to understand the main point of each paragraph.

2. Are the methods appropriate and well described?
The authors must mention average age and the deviation no the section population. The authors must explain in more details spectral power, and describe the asymmetry equation’s.

3. Are the data sound?
The design is very confusing and poor. The main question is not well thought. It is not a compelling study.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
I don’t believe that the manuscript reach a relevant standard for reporting. Moreover, there is nothing extremely new on that kind of information.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
The authors had a very formal approach to deal with the discussion and sometimes support their argument with animal data or different techniques other than EEG.

6. Are limitations of the work clearly stated?
Not really.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes.

8. Do the title and abstract accurately convey what has been found?
The authors should change the title. It is not clear what they want. In special, they must think about the statement: “with rapidly changing psychiatric symptoms”.

Answers to Reviewer 2:
1. Introduction and abstract have been slightly rewritten to explain the aim of the study more explicit.
2. The sentence “Clinical data including age is reported in Table 1” has been added to the Population section, and average age is now also mentioned in the text. Age range has been added to the Table. Spectral power has been described in more detail. The formula ABS (right-left) has been added to Methods.
3. Two patient groups were included. Inclusion criteria have been clearly stated. EEGs were performed prospectively on three occasions in both groups. A blinded neurophysiologist interpreted EEGs. Relevant standard EEG parameters have been reported in Tables and Figures using standard statistics. With all respect we feel that our study is adequately designed and that data are reported in the usual way for clinical research papers.
4. See point 3 above. This is the first EEG study on depressives with additional symptoms and it does, in our opinion, convey new information. Studies on subgroups of depression are sparse and needed, as these patients may need different diagnostic and treatment approaches. In particular, studies of acutely admitted psychiatric patients as well as QEEG in the acute setting are extremely rare. Hence this research endeavour is new, and we believe that it is
important and needed (as acknowledged by reviewer 1). We have tried to improve the Introduction on this point.

5. We agree on this observation by the reviewer. However, it is customary and useful to discuss EEG results in parallel with information from other methods in the Discussions of clinical research papers.

6. Limitations (other explanations, possible drug effects, and small n) are in fact described in the two paragraphs preceding the conclusion-paragraph in the Discussion. These paragraphs have been slightly extended.

7. No comments
8. The title has now been changed hopefully to the satisfaction of the reviewers.

We have ensured that our revised manuscript and figures conform to the journal style (according to the author instructions). We thank the reviewers and BMC Psychiatry for the opportunity to improve our manuscript.

Best regards

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